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ABSTRACT

Serious capital outlay issues that California faces with growth and change are addressed. Initial studies and policies leading up to the 1960 master plan that guided the first period of growth and expansion are covered and the impact of the master plan is examined, along with changes in society and higher education during the 1960s, 1970s, and the early 1980s, and the prospects for the next 15 to 20 years in terms of expected need and accommodation. Descriptions are provided of three major facets of growth and change that policy must address: probable numbers of prospective students, places actually available on campuses for these students, and costs and capital funding where existing facilities are inadequate. The analysis rests on two major variables, enrollment estimates and capacity calculations. Major problems and opportunities arising from expected expansion and change in higher education are also addressed. Long-range planning for expected growth and change at the University of California, the California State University, and the community colleges is discussed, along with assumptions about student numbers and characteristics. Also considered are physical facility options for accommodating student numbers and change. Information on capital outlay procedures is appended. (SW)

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THE NEED FOR STATEWIDE LONG-RANGE CAPITAL OUTLAY PLANNING IN CALIFORNIA

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An Issue Paper Prepared for the California Postsecondary Education Commission

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SAUSALITO, CALIFORNIA

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CALIFORNIA POSTSECONDARY EDUCATION COMMISSION REPORT 86-9

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INTRODUCTION

California urgently needs policies to guide growth, expansion, and change in higher education over the next 15 years and beyond. Our State's dedication to higher education is beyond doubt. Over the next two decades, the State will almost certainly spend billions of dollars to guarantee access to higher education for its citizens -- to establish new campuses and centers; to expand facilities at existing institutions; and to renovate classrooms and laboratories. Governmental and educational leaders must assure that these expenditures are wise – that each dollar furthers State educational priorities. Fragmeneted, ad hoc expansion and growth will not result in the best use of limited public funds, nor will it direct resources to the State's highest educational needs.

This report addresses the serious capital outlay issues that growth and change will bring. The issues are not new: they were the focus of major concern and protracted study in the 1950s when the State faced unprecedented enrollment growth. The earlier studies, culminating in the 1960 *Master Plan*, set a State policy framework that served California well. Since 1950, the State added three new University campuses, eight State University campuses, and 52 Community Colleges; And a strong independent sector was maintained. With few exceptions, growth was well directed to achieve exceptionally broad access to an ever improved quality of higher education.

Policy issues of growth and expansion were addressed effectively and at length in the 1950s and 1960s, but, in the recent past, demographic and economic focus shifted to consolidation and decline. Terms such as "retrenchment" and "the steady state" dominated policy discussions when it became apparent in the early 1970s that population projections could not support an endless, continuing, annual enrollment increase on every campus. Political and economic factors compounded matters by severely limiting both State and federal funds for capital outlay. Today, many of the nation's campuses must continue to cope with the unhappy problems of enrollment stability or decline. In California, we must plan for expansion and change.

Another period of enrollment growth is just below the horizon. Even today, many colleges and universities are hard pressed by more students than their facilities can accommodate. Facilities that served the State and the students well in the 1960s are wearing out. Elected officials and State agency staff with policy responsibilities must once more turn their attention to issues of growth and change highlighted here.

- Part I, "Past, Present, Future," reviews the earlier period of growth, summarizes intervening social and economic changes, and makes assumptions about a possible future.

- Part II, "Complexity and Cost," describes the three major facets of growth and change with which policy must deal: (1) probable numbers of prospective students; (2) places actually available on campuses for these students; and (3) costs and capital funding when existing facilities are inadequate.

- Part III, "Issues and Questions," raises the more obvious, major problems and opportunities that expansion and growth in higher education may bring.

The establishment of a new campus or center is not "merely" a decision reached after analysis and rational discussion in a quiet, academic setting. The college and university systems plan and propose, but the Governor and Legislature are the proper and final authority. State executive, legislative, and educational agencies can take a statewide perspective to review plans, to suggest priorities, to raise policy options, and to develop technical, analytic measures. Prior to final, political action, difficult questions can be asked and sometimes controversial options can be explicitly debated. Only then will the State's leadership have some assurance that they are avoiding bad decisions on complex and costly issues. If this paper begins to raise appropriate questions and options for State consideration, then it will serve its purpose.

Part I PAST, PRESENT, FUTURE

History, pessimists suggest, teaches us only to recognize a mistake when we make it a second time. Optimists, on the other hand, hope that recognizing the context of past error will prevent the second mistake. But one need not be an optimist to value California's past experience with growth and expansion in higher education. That history has positive lessons worth recalling, and these lessons -- and some mistakes -- are considered here in three parts:

- the initial studies and policies leading up to the 1960 *Master Plan* that guided the first period of growth and expansion;
- the *Master Plan* and changes in society and higher education during the intervening years -- the 1960s, 1970s, and this decade;
- the prospects for the next 15 to 20 years in terms of expected need and accommodation of it.

EARLIER PLANNING

Undoubtedly, the defining characteristics of the State concerned with higher education in the aftermath of World War II were recognition that unprecedented growth was to be expected and that California had to plan rationally and early to accommodate it. Within this context, at least four factors played major rolls in the development of the 1960 *Master Plan:*

Conscious Planning

The 1960 *Master Plan* entailed extensive studies by advisory groups and technical committees, but many of its most important recommendations were "either direct outgrowths of earlier studies or extensions of recommendations found in such studies . . . " (1960, p. 16). Three of these studies are particularly relevant to present expectations of a new period of growth:

- *A Report of a Survey of the Needs of California in Higher Education* (1948), "The Strayer Report," was initiated by statute. It recommended limiting the two-year colleges to lower-division work, giving the University exclusive jurisdiction over doctoral programs, and the establishment of new state college campuses in Sacramento, Los Angeles, and Orange County.
- *A Restudy of the Needs of California in Higher Education* (1955), "The Restudy" or "The McConnell Report," was initiated by a 1953 State Budget item. Among other recommendations, it urged authorization of master's programs in the state colleges, tightened admissions standards in the four-year institutions, and establishment of a state college board. This was the first study to consider space standards for determining the number of students that classrooms could or should accommodate.
- *A Study of the Need for Additional Centers of Public Higher Education in California* (1957) was initiated by the voluntary coordinating group, the Liaison Committee. The report suggested areas where new campuses in all three segments might be located, but its authors were not charged with recommending specific new institutions or locations. The report urged continuing consideration of enrollment estimates and of the impact of proposed new institutions on existing ones. It also suggested examination of alternatives to construction of new facilities -- for example, reduction in the number of small classes and use of television for instruction.

The substantive recommendations of these early reports were absorbed into the 1960 *Master Plan.* The current importance of these almost seminal studies is as models or examples -- as analytic foundations for *Master Plan* policies on which growth and expansion were based. The decision, for example, to build the Fullerton campus of the State University was not based on only the eight-months' work of the Master Plan Study group in 1959-60; its roots were in plans and policies carefully developed in earlier, comprehensive analyses.

Local Pressure

For many years in the fifties nearly every local chamber of commerce in the state was working to get a campus" established in its area (Coons, 1968, p. 5). Times have not changed: A recent review of a proposal for a new off-campus center shows local planning projections of population growth to be 50 percent higher than those of the regional planning agency and the State Department of Finance. Or have they? Possible campus expansion is even now running into "no growth" policies in some localities.

Independent Institutions

During this initial period of growth, relations between public institutions and independent ones were characterized, for the most part, by mutual respect and shared values. One may note that good relationships are easier to establish when students and funds are relatively plentiful.

Governance and Management

Until 1960, only the University had a separate governing board. The state colleges were the responsibility of the State Board of Education, and the establishment of a separate state college board was a major recommendation of the 1960 *Master Plan*. A second major recommendation was that each junior college district be governed by a separate board, rather than by that of the local school district. A third recommendation urged replacement of the voluntary Liaison Committee with a new State coordinating agency to plan, monitor, and advise on "orderly growth."

THE MASTER PLAN AND THEREAFTER

The 1960 *Master Plan* remains the most important single influence on higher education in California. Its impact is examined here, along with social, economic, and political trends relevant to a new period of growth and change.

The Master Plan

The *Master Plan*, sometimes criticized as merely a ratification of the status quo, seems properly characterized as a peace treaty. It was an agreement among the segments and with the State about principles for the planning, governance, and development of higher education (Gerth, 1971). The Chairman of the Master Plan Survey Team found its essence in the interrelationships between structure, function, and coordination (Coons, 1968, p. 48):

> How the University, the State Colleges, and the junior colleges were to be organized and governed, what responsibilities each was to possess, and how they were all to be kept in orderly relationships to each other was the central and most important item for the Master Plan to settle.

Since statutory recognition of the *Master Plan* in 1960, growth and expansion have been guided -- and contained -- by its broad principles as well as the narrower express legislatio. :

- differentiation of function among the three public segments;
- differential eligibility criteria for admission of students across the segments;
- the "open door" admissions policies for the two-year campuses;
- tuition-free education in public higher education;
- a 40/60 ratio of lower-division to upper-division students on University and State University campuses;
- location of new campuses and centers where population growth dictated; and
- formal coordination by a State governmental agency.

Within these principles, the *Master Plan* recommended new institutions in all three segments:

University: Three new campuses had been approved earlier by the Regents. It was recommended that these be complete' without delay, a recommendation resulting in the present San Diego, Irvine, and Santa Cruz campuses. It recommended that later study be given to the need for additional campuses in the San Joaquin Valley and Los Angeles areas when enrollment experience became available. Only the three campuses originally recommended have been established.

State University: At the time of the *Master Plan*, four new campuses had been authorized by the Legislature; two had been established, and two were confirmed by the Master Plan Survey Team. The Master Plan also recommended two additional campuses -- now Dominguez Hills and San Bernardino. As with the University, other areas -- five in this instance -- were deferred for later study: Griffith Park-Glendale, Redwood City, Contra Costa County, Bakersfield, and Ventura County. Only the Bakersfield campus was later established.

Community Colleges: The State was asked to "give encouragement" to the establishment of 22 two-year campuses by the school districts concerned. The Survey Team noted the difficulty of establishing growth priorities for two-year colleges because of their local character. Regarding priorities, it noted three different kinds of "need": (1) that of opportunity for local students; (2) that of alleviation of overcrowded four-year campuses; and (3) that of including every high school district within a two-year college district.

The expected growth and expansion in campus numbers has been achieved in the past three decades. California's *Master Plan* successfully met its major objective of orderly growth, even though hindsight suggests greater success in some regions of the State than in others.

Decisions on establishing new campuses are part analytic and part political. Analysis failed in some instances -- for example, campuses at San Bernardino and Riverside did not meet enrollment expectations. The political process failed in a few other cases -- the campus at Turlock, as one example, remains smaller than anticipated. Historical containment of two-year college students within district boundaries has produced some anomalies, particularly where colleges are in near proximity across district lines. These "mistakes," however, are small from the perspective of the *Master Plan's* grand design and unparalleled accomplishments. But they must be noted, for there will be less margin for error over the next two decades than in earlier years; the State must give high -- perhaps the highest -- priority to maintaining the enormous investment in higher education institutions that it has made over its history, particularly during the past 25 years. Deliberate efforts must be made to utilize today's vastly greater analytic resources, to restrain the political pressures of local aspiration, and to gain a statewide perspective on institutional growth, change, and expansion.

Intervening Change

The authors of the 1960 *Master Plan* addressed a significantly different milieu than that faced by today's planners. Some changes in the past 25 years favor planning; others inhibit it; all must be considered.

Segmental Governance: The separate, multi-campus, governing Board of Trustees for the State University was established by the *Master Plan*, and, along with the University Regents, is now a major planning asset for the State. The Board of Governors, established as a coordinating agency for the Community Colleges in 1967, has yet to clarify an ambiguous and uncertain role, a role now under study by the current Commission for the Review of the Master Plan (1986; and see Smith, 1986).

Statewide Coordination: The original California Coordinating Council for Higher Education, established by the *Master Plan*, was replaced by the present California Postsecondary Education Commission in 1974. The Commission's authority to collect planning information is greater than that of the original Council, and it has gained sufficient prestige to be influential in its advisory capacity. It is statutorily charged with reviewing and recommending new campuses and centers before their establishment. Its review determines whether or not minimum criteria such as enrollment size and community needs are satisfied. It does not collect and analyze data needed for long-term capital planning such as that used in the 1960 *Master Plan*. Relevant to the present paper are studies of social, demographic, and economic trends to the year 2000 (CPEC, 1985a) and its current review of space utilization standards (CPEC, 1985d; 1986).

"Tax Revolt" -- Part I: In the aftermath of Proposition 13 in 1978, a property tax limitation measure, legislation shifted Community College support from local districts to the State. Satisfactory answers have yet to be found to the many questions that arise from the need to reconcile local districts to the State. Satisfactory answers have yet to be found to the many questions that arise from the need to reconcile local district control, on the one hand, and accountability for State support, on

the other. Central, systemwide coordination of campus' capital outlay initiatives -- a feature of planning in the University and State University -- is less effective in the Community Colleges.

"Tax Revolt" -- Part II: Proposition 4 in 1979 placed a limit on State revenues that is being approached in the 1986-87 Governor's Budget. Annually, the willingness of the Governor and Legislature to support higher education remains an issue, but a new, as yet untested, limit is now placed on their ability to do so.

Social Values: The past 25 years have seen expanding belief that a larger proportion of the population -- particularly women -- could benefit from higher education. In addition, the 1960 *Master Plan* did not mention historically underrepresented target groups. Obligations to these groups -- largely Black and Hispanic -- are now legal and explicit as well as moral and implicit. Blacks and Hispanics continue to participate in higher education at far lower rates than do Whites. Gains have been made, but results continue to fall short of goals that society must strive to meet.

Independent Institutions: California's independent colleges and universities remain strong, but they are not untroubled. Independent institutions, as well as their students, depend on student financial aid. Rising costs have pushed tuition charges to the point where, but for student financial aid, few but the very rich could afford the choice of an independent campus. State-funded aid has dropped over the past 25 years from 78 percent of tuition to less than 52 percent. And as both enrollments and student charges have risen in the public sector, so has its share of State-funded student financial aid; the share of the independent sector has decreased proportionately -- from 70 percent to 51 percent in the past 10 years. Federal student support continues, but is annually threatened by attempts to reduce the federal deficit.

Changing Student Interests: Although difficult to quantify, far greater interest seems to be shown in education directly relevant to occupations and careers than 25 years ago. At that time, for example, a major concern of planners was that Community College vocational and technical education would be neglected in favor of traditional academic offerings. The present concern is that the opposite is taking place, that traditional, academic learning is seen as subordinate to "job training" at almost all levels in most institutions. The trend appears also in the growth of private, proprietary schools to an enrollment of over 500,000 students.

Student Access: Under the *Master Plan*, all California residents who could benefit from higher education were assured of a place in it. All high school graduates have been explicitly assured of admission to a Community College. In addition, the University and State University have assumed the implicit obligation to accept all qualified applicants at some campus within their quite selective systems. In contrast to other states, California has continued to base fiscal support on enrollment demand, and has rarely limited enrollments by budgets.

Technological Change: Education requires state-of-the-art equipment and facilities. Rapid advancements in the sciences and engineering have strained public and private resources for both research and technical training. And the end is not in sight.

Collective Bargaining: Faculty collective bargaining is now a reality. In the Community Colleges, it has had a substantial impact on local district planning and governance. In the State University, its long-term implications are still unclear.

School Reform: Growing public concern over the quality of elementary and secondary education has created awareness that colleges and universities have vital roles in "school reform," not only in educating teachers but in actively motivating and assisting pupils.

PROJECTIONS AND EXPECTATIONS

Experience with the *Master Plan* over 25 years highlights both the benefits and hazards of long-range planning. Since 1960, several then justifiable assumptions failed the test of time -- the programmatic shift from academic to vocational emphasis in the Community Colleges may be a prime example of planning perils.

And the *Master Plan* had to accept earlier authorizations of campuses where need later proved slow

in developing. But the 15-year projections of the 1960 *Master Plan* predicted 1975 enrollments with reasonable accuracy, and, under its policies, growth and expansion have served the State well.

Enrollment projection and forecast techniques are more sophisticated in 1986 than in 1960. And greater information -- about student ethnicity and sex, for example -- allows more detailed estimates of the size and distribution of the enrollment pool. Nevertheless, projections and forecasts remain hazardous.

- The pending results of the Commission for the Review of the Master Plan and its legislative counterpart may well alter the critical assumptions about segmental roles and distribution of students that are the basis of current forecasts.
- State space utilization standards for higher education are under active review, and resulting recommendations can change expectations about the capacities of existing and future campuses and centers to accommodate students.
- More sophisticated, technical projections have not removed the uncertainty that still pervades estimation of the participation of discrete segments of the population in higher education -- in particular, the participation of ethnic minorities.

The three public segments do not now have academic or capital outlay plans that extend to the year 2000, nor does the Department of Finance's Population Research Unit prepare official enrollment forecasts beyond 1994. Within the time allowed for this paper, it was not possible to go beyond back-of-the-envelope estimates of student numbers and the costs of accommodating them 15 years in the future. But from estimates that are available -- and, indeed, from the unavailability of others -- the State urgently needs a more comprehensive view of the future than it presently has.

Enrollments

"Official" estimates of enrollments expected in the year 2000 are not yet available. Planners in the three, public segments have, solely for purposes of this paper, estimated these, and the aggregate of their expectations is some 1,939,000 students or 315,000 more than the 1,624,000 enrolled in 1984. Each segment uses somewhat different assumptions to reach its share of this total, and the aggregate is about 2 percent over an equally unofficial projection of the State Department of Finance's Population Research Unit. Forecasts and estimates can be expected to differ, of course, but, as later suggested, the differences should be explicit and explained -- not the case at present. All agree that population growth will be concentrated in fairly discrete geographic regions.

Enrollments in the public sector -- especially in the Community Colleges -- have been higher in past years than they are now. In 1981, Community College enrollment peaked at 1,430,634 students, some 255,221 above the 1984 total of 1,175,413. The total decline masks shifts among categories of students, and explanations for the decline are too many, complex, and detailed for analysis in this paper (See California Community Colleges, 1986). From a long-term perspective, however, a thoughtful observer suggests that the period of decline in the early 1980s may be attributable to heightened public -- and prospective student -- awareness of the ambiguity of Community College missions and the absence of educational priorities. This ambience of uncertainty may encompass more immediate, annual causes for enrollment decline. As ambiguities are clarified, public perceptions will change. A personal opinion: by the year 2000, the decline in the early 1980s will be perceived as a temporary aberration in a trend of continuing growth.

Capacity and Cost

Growth and change will require more space, different space, and substantial renovation and improvement of existing space. Time did not permit even the roughest estimate of the total costs that might be required by the year 2000. The bits and pieces of informal information available, however, clearly point to substantial, future costs. The University estimates, for purposes of this paper only, that accommodating enrollment increases on existing campuses will require annual capital appropriations averaging about $200 million. In the State University, a similarly qualified estimate is that a new campus for 10,000 students might cost in the neighborhood of $185 million, disregarding land costs. The actual costs, in 1986 dollars, of the general campus facilities of an existing University campus are well over twice that amount. Simply meeting the annual costs of current maintenance

in all three, public segments appears to total some $90 million. A legacy of earlier years of State fiscal difficulties, the aggregate costs of accumulated, deferred maintenance in these segments is roughly $238 million.

The magnitude of existing needs for renovation and maintenance reinforce enrollment, capacity, and capital cost projections to compel renewed and comprehensive statewide capital outlay planning. The State should have the public segments' best estimates of future enrollments and capital costs. And the State should have plans and policies for coordinating and meeting future needs. Only the University is presently engaged in long-term, segmental planning, but the other two public segments have it under serious consideration. The plans of all three should be integrated -- not merely aggregated -- into an overarching plan that clearly enunciates State policies and priorities.

California's public and private colleges and universities are the envy of most states and many nations. This remarkable status was not achieved by ad hoc, fragmented growth. Broad access and high quality are the result of the serious planning and analyses that took place over 25 years ago; of continuing recognition of technical standards; of informed restraints on institutional and community aspirations; and of willing State support of rational and planned orderly growth to bring the opportunities of higher education to all Californians.

Part II COMPLEXITY AND COST

State and segmental planners generally agree on the probable total size and other relevant aspects of California's higher education enrollment in the year 2000. Agreement, however, is at the highest level of generality. Beneath this generality, an arcane world of detailed calculations and assumptions support predictions of enrollment and institutional capacities. Long-range planning for higher education is part analytical and part political. The analytical part rests on two major variables, enrollment estimates and capacity calculations, discussed below. The other and equally critical part of long-range planning is political, and the variables are legion, ranging from the intensity of local pressures to statewide priorities and to national economic and political trends. The availability of funds for capital outlay, also discussed below, is a variable that subsumes a number of others.

ENROLLMENT ESTIMATION

Estimates of future enrollments fall into two general categories, both relevant in California:

1. "Projections" are the result of quantitative assumptions about future trends. Demographic projections typically assume that known, past behavior will continue into the future. Projections by different demographers will agree if similar variables are used -- past and present birthrates, for example, or the extent to which a particular age group participates in higher education.

2. "Forecasts" are projections using assumptions believed by the forecaster to be likely -- that birthrates will increase, for example, or that greater numbers of ethnic minorities will attend college in the future than in the past. A good forecast will explain the forecaster's reasons for assuming future conditions. Forecasts may be called "expectations," and, like projections, will produce like estimates if like assumptions are used. But a much greater range and diversity of opinion exists over appropriate assumptions for forecasting than over relevant, known variables for demographic projection.

The Population Research Unit of the State Department of Finance provides segmental and other State planners with demographic projections for California by age, sex, and county. Enrollments are projected by the Population Research Unit by applying a set of observed enrollment rates for specific categories of students to the Unit's projected population in those same categories. Projections are by district for the Community Colleges, but on a statewide basis for the University and State University. Segmental planners all begin with the Population Research Unit's most recent population projections, but they work with these base-line projections in slightly different ways:

Community Colleges: The Population Research Unit's projections for the Community Colleges are the official projections for the districts in that segment. Planners in the Community College Chancellor's Office suggest that both the size of the Community College budget and unemployment rates may be as critical in the short-run as demographic change in predicting two-year college enrollments (Community College Chancellor's Office, 1986).

State University: The State University Chancellor's Office prepares official enrollment estimates for that system, using participation rates derived from the State University's enrollment reporting system. Estimates of both undergraduate and graduate enrollments are produced by demographic projections. State University projections differ from those of the State Population Research Unit by giving greater weight to policy variables.

University: The University President's Office projects the demographic potential for undergraduate enrollments based on the Population Research Unit's projection of numbers of tenth-grade students, appropriately lagged. The resulting, essentially demographic projection can be altered by dif-

fering assumptions. For example, the model can be asked to assume a pool of untapped applicants for certain campuses or changes in eligibility for different ethnic groups. The University considers the size of graduate enrollments to be the result of planning and policy, and these are not projected through demographic procedures.

In addition to the annual enrollment estimates prepared by State and segmental planners, the Postsecondary Education Commission has developed an Enrollment Simulation Model that uses the Population Research Unit's projections of county population by age and sex, combined with estimated ethnic composition as basis for estimating county-by-county, segment-by-segment enrollment potential. The current version uses 1980 participation rates, specific to each age, sex, and ethnic group. Future versions will vary participation rate assumptions.

Demography is both a science and a profession, and demographers foresaw the declining college-age population in the early 1970s when most state and educational leaders, still reeling from dramatic expansion, persisted in expectations of continuing growth. Demographers are once again predicting change, and this time their warnings should be heeded.

- By the year 2000, California's population (26 million in 1985) will increase by some 5.4 million; by 2020, another 5.4 million will be added for a total population of almost 37 million people (Department of Finance, 1983a; Bouvier and Martin, 1985).

- From the 1985 figure of 26 million, California's population is expected to increase by some 20 percent by the year 2000. But the percentage growth will be much greater in some counties and metropolitan areas: Adjacent Riverside and San Bernardino Counties, for example, are expected to grow by just over 900,000 people -- some 48 percent over the 1985 population of 1.8 million (Department of Finance, 1983b).

- Ethnic minority population will become 46 percent of California's population by the year 2000, a dramatic change from 15 percent at the time the 1960 Master Plan was written (California Postsecondary Education Commission, 1985a, pp. 122, 124; Department of Finance, 1985).

- The median age of Californians will have increased from about 30 years in 1980 to about 36 years by the year 2000 (Department of Finance, 1983a).

- Women are participating in higher education in far greater numbers than in the past. In the Community Colleges, the enrollment of women exceeded that of men for the first time in 1975, and they continue to be in the majority (California Community Colleges, 1986). And women make up some 50 percent of the law school enrollment at the University's Davis campus -- and some 60 percent in veterinary medicine.

In the year 2000, the Postsecondary Education Commission estimates that there could be some 267,000 more students in California's public colleges and universities than at present (1985a, p. 140). And the informal estimates of the University and State University suggest even higher enrollments. Before Community College enrollments fell dramatically in the early 1980s, that segment accommodated almost as many students. This earlier accommodation of larger numbers gives little comfort, however, insofar as it suggests that greater capacity will not be needed in the future. The year 2000 will find different students in different locations pursuing different interests than those who dropped from the Community Colleges because of employment opportunities and reductions in avocational and recreational courses.

CAPACITY AND UTILIZATION

It is far easier to dismiss space utilization issues as counting angels on the head of a pin than it is to understand and appreciate them. But appreciation is necessary, for an apparently "minor" change in a single variable, perhaps one familiar only to an expert in the field, can have a lasting impact on education and can cost -- or save -- the State millions of dollars. An explanation of current utilization and space standards is well beyond the scope of this report, but tracing the history of one variable over almost 40 years suggests how policy issues -- as well as dollars -- are sometimes imbedded in the intricacies of technical calculations.

A fairly simple question is posed by one facet of utilization standards: "How many hours a week

should a general classroom be used?" The answer is calculated by multiplying (1) the number of hours that the classroom is assumed to be available by (2) one's judgment of the extent of reasonable classroom usage. In California, at least five answers have been given.

1948: The "Strayer Report" assumed that classrooms were available for 9 hours a day, 8:00 a.m. to 5:00 p.m., five days a week, for total weekly availability of 45 hours. The report recognized that 100 percent utilization -- all 45 hours -- was neither possible nor desirable, and established a utilization rate of 65 percent as approaching the maximum that a college or university could attain without overcrowding or extending the week beyond desirable limits. The first answer to our question, therefore, was 29 hours (45 hours x 65 percent usage).

1955: The "Restudy" or "McConnell Report" examined actual 1953 usage, concluded that greater usage during a 45 hour week was possible, and recommended an 80 percent utilization rate. The second answer, therefore, was 36 hours (45 x 80 percent usage). In passing, the space standards for research laboratories recommended in the "Restudy" are still in effect. Questioned last year by the Legislative Analyst, they are the subject of recommendations for modification in a current Postsecondary Education Commission report (1986).

1960: The *Master Plan* authors found that the "Restudy" utilization standards were considered too high by State and segmental planners. The assumption of a 45 hour week was continued, but the utilization rate was reduced to 66 percent. The third answer, therefore, was 30 hours (45 hours x 66 percent usage).

1966: Responding to a *Master Plan* recommendation for further study, the Coordinating Council undertook a comprehensive study of space and utilization. The Council accepted many of the space standards of the "Restudy," but developed a new analytic technique relating square feet directly to the number of hours students occupy classroom seats. The result appears to have been a restriction of space standards but a liberalization of utilization standards from the "Restudy," but not from the *Master Plan*. The fourth answer, therefore, was 34 hours (45 hours x 75 percent usage).

1970: The Legislature, on recommendation of the Legislative Analyst, now entered the discussion. The Analyst urged that classrooms should be assumed to be available for 14 hours a day between 8:00 a.m. and 10:00 p.m., five days a week, for total weekly availability of 70 hours. The 75 percent usage assumption of the 1966 Coordinating Council was not changed. A legislative resolution provided the fifth -- and now still current -- answer of 53 hours (70 hours x 75 percent usage).

After 1970, argument over appropriate answers continued, but reduced enrollment pressures and the virtual elimination of capital outlay funding caused interest to wane, at least insofar as formal recommendations were concerned. Interest was revived in 1985, and, at legislative request, the Post-secondary Education Commission is now developing a proposal for a new, comprehensive examination of all utilization standards -- and a sixth answer can be expected. The historical development above is not offered to imply that any answer is more "correct" than the others. Rather, the intent is to show that the greatest variation -- the increase of expected weekly utilization from 34 to 53 hours -- was caused by an answer to the *policy* question of whether or not all campuses in each of the three public sectors should be expected to operate during the evening hours.

The State sets standards for many types of space in addition to classrooms and laboratories -- for support services, for example, and for faculty offices. Each of these involves the same mix of analysis and politics, and each requires judgment. The role of policy judgment in setting utilization standards and then in using them cannot be stressed too greatly. Policy considerations can be clouded by the details of definition and calculation that determine how many students a campus should or can accommodate. Nevertheless, detailed definitions and complex calculations are necessary. As a current report of the Postsecondary Education Commission (1986) notes, common standards:

- introduce consistency and rationality into the process of capital planning;
- assure, where commonality is appropriate, that the three segments are treated equitably; and

- measure the variety of space uses on campus for balanced development.

Utilization standards are a necessary means to the end of orderly growth. As the same report well states (p. 4):

> "The very existence of standards . . . forces both the State and the segments to engage in a process of exploration, analysis, and evaluation. It is a process intimately linked to a cardinal principle of the *Master Plan*, that the development of higher education will be 'orderly.'"

At a State University campus, a planner suggested that use of standards could be likened to working out an equation. On the State's side of the equation, calculations involve hypothetical full-time students and interchangeable square footage. On the institutional side of the equation, against these abstractions, planners must contend with the varying schedules of real, part-time students and with actual classrooms and laboratories designed for particular purposes -- actual space that cannot easily or cheaply be converted to other uses. At another campus, what clearly seemed a legitimate complaint was voiced: A State control agency aggregated partially used, widely dispersed space in several laboratories, each designed and located for a specific discipline; this collection of bits and pieces was then counted as available space in calculating the entitlement for laboratory space in a new facility. Standards are only the beginning and not the end of analysis; they are not a substitute for common sense and judgment.

AVAILABLE CAPITAL FUNDING

California's ability to pay for the development of its higher education from 1960 through 1975 was a question asked in the *Master Plan*. It answered the question by examining the State's education expenditures in the context of data from other states, and by relating projected higher education operating and capital outlay expenditures to anticipated State revenues and expenditures. The conclusions were that higher current State revenues, or bond issue money, or both would be required to meet future higher educational construction needs, but that (p. 196):

> "California can and will, as in both the past and present, provide adequate support for an efficient program of public higher education designed to meet fully the rapidly changing needs of society.

Both conclusions proved correct. Detailed calculations to determine the availability of capital outlay funding are beyond the scope of this paper, but one may surmise that the final, 25-year-old conclusion would be reached again today: California "can and will" provide for the capital outlay needs of its colleges and universities. The task, however, may be more difficult over the next 15 years than it was between 1960 and 1975.

- New construction costs are increased by earthquake safety standards and by a wide variety of other health and safety regulations that did not exist in 1960. The estimated cost of seismic safety corrections for South Hall on the University's Berkeley campus alone are $3.5 million (University of California, 1985).

- The average expenditure from State bond funds for higher education over the 10 years prior to 1984-85 was $22.6 million dollars. These expenditures increased to $93.2 million in 1984-85, $119.9 million in 1985-86, and $124.7 million, as proposed in the 1986-87 Governor's Budget. Will pervasive concern over federal deficit financing spill over to inhibit future approval of what is essentially State deficit financing of higher education construction should additional bond funding be needed?

- All three segments participate in capital outlay funds made available from tidelands oil leases -- from the Capital Outlay Fund for Public Higher Education (the "COFPHE Fund"). As the economic recession reduced State revenues in 1981, the State diverted revenues from the COFPHE Fund to the General Fund, and these funds have not been restored to the COFPHE Fund. And recent reductions in the price of oil will have severely adverse effects on the COFPHE Fund.

- Facilities maintenance has been a prime target for budget reductions in recent times of fiscal stress. All segments report a backlog of deferred maintenance, and the aggregate of some $238 million for all segments, is a cloud that was not on the horizon in 1960. The State is attempting to eliminate the backlog, but if current maintenance is not fully funded, progress will be slow. The Univer-

sity and State University anticipate that the results of a current, State-sponsored, comprehensive study of maintenance standards will lead to realistic support in the future.

- Renovation is critical and costly, and must be accomplished so that older buildings can continue to serve their purposes and to withstand earthquakes -- and the number of older buildings is far greater today than in 1960. Also, it is said, recent construction is of poorer quality than in the past; the need for renovation arises more quickly.

- Renovation alone is not sufficient in disciplinary areas where original space configuration becomes outdated because of rapidly changing equipment and instructional needs. Science and engineering are major examples, but change pervades the range of offerings -- for example, newly offered clinical law instruction.

- In 1960, Community College construction was financed almost entirely through local property taxes. Under legislation in the aftermath of Proposition 13, the State has assumed the major burden of this responsibility (Postsecondary Education Commission, 1985e).

- Higher education will not be alone in seeking capital funds. Other State and local agencies, particularly the elementary and secondary schools, will be strong competitors. The arena for competition, moreover, will be restricted by the 1979 limits imposed by Proposition 4.

Financing Postsecondary Education in California: 1985-2000 (California Postsecondary Education Commission, 1985a, pp. 210-317) is an exhaustive discussion of these and other issues and variables that must be considered in long-term planning for expansion and growth. That report's conclusion is that the most recent increases in State support continue to reflect the high priority that California places on higher education. But it warns that hard times in the future may result in a considerable downturn in this support, for capital outlay and maintenance will remain easy victims for expenditure reductions. Long-range plans for capital outlay and for current and deferred maintenance may not avoid reduction in times of fiscal stress, but plans could be a modest barrier, and, if reductions are inevitable, will be a context for selective and rational allocation of the limited funds that are available.

Part III ISSUES AND QUESTIONS

The questions below probe issues arising from expected growth, expansion, and change in higher education. Answers to many are, it is firmly believed, quite urgently needed. Yet the questions are posed by the coincidence of two, perhaps three, developments, none of which alone seems to convey a proper sense of urgency.

- Planners and demographers are creating a growing public awareness that a new era of enrollment growth will occur in the next ten to fifteen years -- usually too long a timeframe to raise political blood pressure. And the practically minded would appear to have little cause for immediate concern; a new campus or center can be planned and constructed in eight to ten years.

- Statewide enrollments may decline between now and the beginning of the expected period of growth with the demographic decline of the number of persons of college-going age in the general population. Predictions of enrollment declines, particularly those that would place regional institutions in peril (See Carnegie Council, 1980, pp. 55 et seq.) have not been accurate in the short-term in California. Even though this traditional enrollment pool is reduced, a greater number from it appear to be enrolling in the University and State University. Regardless of statewide trends, particular geographic regions are rapidly gaining population. Even now, pending proposals for three, new, permanent, off-campus, State University centers and at least one new Community College evidence locally perceived need. In isolation, however, any one -- or even all -- pending proposals could, if the recent past is a guide, be considered and approved or disapproved without concern for major, statewide interests in effectiveness, comparative need, and possible duplication.

- Although it is not clear that their separate plans account for the plans of others, all three, public segments are, to widely varying degrees in the early stages of long-range planning for expected growth and change:

The University: Currently, the University is the only segment nearing completion of a long-range plan. It is in the final stages of completing its long-range plan for growth until the year 2000. Iterated discussions between central office and campus planners concern relationships among related factors such as enrollments, programs, faculty resources, and physical facilities. A major concern of University planners is that enrollment at each campus be balanced -- that is, that the character of a campus not be changed because of a disproportionate number of undergraduate students. And undergraduate enrollments have been unexpectedly large over the past two or three years. At this present stage of planning, University planners believe that growth can be accommodated by expansion of existing campus facilities. The growth plan will be completed, it is anticipated, by November 1986.

The State University: Annually, a five-year programmatic and capital plan is prepared in the State University. Campus evaluations of existing programs are reported, and new program proposals are reviewed. Enrollment projections and campus capacity to accommodate them are also presented. State University plans do not now extend beyond the annual, five-year planning framework. Central office planners, however, see the need for a longer planning timeframe as a context for achievement of emerging goals -- greater degree productivity, for example. Individual campuses do plan beyond the five-year period, and would, in the opinion of campus planners, benefit from a longer systemwide, planning perspective and from positive, systemwide support for campus planning efforts.

The Community Colleges: Planners in the Community College Chancellor's Office and at 12 selected districts are in the third year of development of comprehensive district plans. It is anticipated that half of the 70 districts will be included in the planning in 1987, and all will be participating 1988. As an example of comprehensive planning, the Riverside Community College District

plan estimates enrollment until the year 2000 under several assumptions, incorporates site studies of three areas where possible new centers might be located in the future, and relates these possible sites to program and enrollment expectations (Vail, 1985). Difficulties in obtaining timely, accurate information from 70 districts have inhibited systemwide, long-range planning by the Chancellor's Office. To overcome this difficulty, a major effort is now underway to develop an automated, facilities planning and utilization system that, when completed, will project needs over the next 25 years for (1) new colleges, new centers, and additions to existing ones; (2) facilities maintenance programs; and (3) estimated costs for new construction and maintenance.

Urgency is dictated by the coincidence of long-term growth projections for the State with interim and differential growth in specific regions and with emerging segmental, campus, and district planning. These combine to require a comprehensive enunciation of State goals and statewide priorities for the year 2000. To paraphrase a line from President Eisenhower's farewell address, California must seek a balance between the actions of the moment and the State welfare of the future.

Questions about the future can be arrayed in many ways. The simplest is to ask about student numbers and characteristics, and then about how they might be accommodated. A closing section raises questions about priorities and responsibility.

STUDENT NUMBERS AND CHARACTERISTICS

Questions in this area begin with the assumption that the population projections of the State Department of Finance are accurate. They arise within the Department's estimate that California's 1985 population of 26 million will increase by some 5.4 million by the year 2000.

Question 1. Does the State have sufficiently accurate projections or forecasts of student numbers for adequate long-range planning?

The projections and forecasts in California are good, but steps might be taken to maintain this high quality. For example:

- An analyst in the University recently shared a discussion of the differing approaches to enrollment estimation with State and segmental counterparts (Fishlow, 1985). State planning would benefit from institutionalizing this apparently one-time information exchange. A process for bringing the policy assumptions and implications of differing, but reasonable, views of the future to the attention of policy leaders would be desirable.

- It is probable that increasing interest will center on temporary or permanent centers, particularly in the State University and Community Colleges, but, as yet, accurate enrollment data for Community College centers are difficult to obtain.

Question 2. Does the State have sufficiently accurate projections or forecasts of the ethnic composition of enrollments?

The Postsecondary Education Commission's Enrollment Simulation Model can generate a variety of forecasts using varying assumptions. The State's Population Research Unit has recently issued provisional, demographic projections of California's ethnic composition through 2020 (Department of Finance, 1985). What use are State and segmental planners making of this analytic work?

Question 3. What assumptions should State and segmental planners use in estimating the future participation of historically underrepresented minority youth -- mainly Hispanics, Blacks, and, recently, Southeast Asians.

Heretofore underrepresented ethnic minorities must be brought into the mainstream of California higher education. Enrollment forecasts will change significantly if their representation in higher education can be made equal to their representation in the population at large. Local campus and college plans should examine such representation, as does that of the Riverside Community College District (Vail, 1985, p. 49). Demographers can only look to the participation rates of a disappointing past. Policy leaders must look to the future.

Question 4. What plans can or should be made for accommodating the needs of a projected "aging population."

In 1980, the median age of Californians was just under 30 years; in the year 2000, it will be almost 36 years, and by 2020, it will rise to over 38 years. Marin County, with a 1980 population of 222,800, offers a perhaps extreme example. Between 1980 and the year 2000, the number of persons age 65 or older in Marin County will *increase* by 13,605. Those aged from 15-24, in sharp contrast, will *decrease* by 17,069 (California State Department of Finance, 1983a). Will there be pressures for building senior centers instead of Community College classrooms?

Question 5. What do we actually know about the influence of student financial aid on enrollment forecasts?

The answer is very little. Evidence on how much difference financial aid actually makes on a student's decision to enroll at a particular institution – or at all – is mostly anecdotal (Palmer, 1986).

Question 6. What implications for capital outlay can arise if substantially more eligible, high school graduates than in the past desire to attend the University and State University?

The 1960 *Master Plan* confirmed the statutory requirement that the Community Colleges accept all California, high school graduates. It is generally -- although not universally -- assumed that the *Master Plan* implicitly obliges the University and State University to accept all high school graduates meeting that plan's eligibility criteria. In 1983, the University admitted as first-time freshmen, approximately 40 percent of those eligible; the State University similarly admitted some 24 percent of its pool of eligible students (Postsecondary Education Commission, 1985c, p. 21). In the past two years, both segments appear to be admitting larger percentages of their respective pools. Continuation of this most recent trend could have significant implications for capital outlay.

The *1960 Master Plan* sought to divert first-time freshmen from the University and State University to the Community Colleges by prescribing a limiting 40/60 ration of lower-division to upper-division students in the two, four-year segments. The Postsecondary Education Commission is now reviewing this policy at legislative request, and its report should shed light on diversion of students as a possible option to new construction.

ACCOMMODATING STUDENT NUMBERS AND CHANGE

In 1960, California required new campuses for a tidal wave of new students. Alternatives were briefly and favorably mentioned in the *Master Plan* but none were recommended. Today, growth and change are, for the most part, farther distant, and time, although short, is still available for more careful examination of options, such as:

1. new facilities on existing campuses;
2. modification of existing facilities on existing campuses;
3. new campuses;
4. space on campuses with unused capacity;
5. leased, temporary, off-campus centers;
6. permanent, off-campus centers;
7. existing facilities of other institutions;
8. year-round operation;
9. degree-granting colleges or universities "without walls;"
10. diverting students to the independent sector;
11. intersegmental sharing of facilities;
12. new technology, interactive computers, and television.

For planning purposes, these physical facility options interact with at least three other major dimensions of enrollment: the location facilities; the institutional responsibility for them; and the programs that are to be offered.

Question 1. Should the State continue to measure capacity for the State University and University on a statewide basis?

The State University comprises 19 widely dispersed regional campuses. If an applicant is turned away from a campus that has reached capacity,

he or she is expected -- at least by State control agencies -- to enroll at one in another region of the State. How realistic is this expectation? Should exceptions be made in the application of statewide capacity limits to campuses in particular regions? Under what criteria?

The University's graduate and undergraduate programs are statewide resources, but is this the case with professional schools, such as those for law or public health? Should selected professional education be regionally distributed?

Question 2. What is the impact of Community College district boundaries on measurement of district enrollment capacity? Where should Community College capital outlay planning take place?

In large districts, should unused capacity in one part of the district prevent construction in another part if expansion would, for example, promote affirmative action or other State policy objectives?

Should the capacity of districts with campuses in close proximity across district lines continue to be separately measured? What other measurements might better reflect local need or lack of it?

Question 3. Can and should the State maintain the highly selective University and State University admissions standards set in the 1960 Master Plan?

University and State University eligibility standards restrict, with narrow exceptions, admission of freshmen to the top one-third of high school graduates. Those who enroll from among the remaining, lower two-thirds are expected to enter through the Community College "open door." Considering the recent history of declining transfers from the Community Colleges, is this still a reasonable expectation? Even if reasonable for statewide planning, should exceptions be made for particular regions or campuses?

Question 4. What plans, if any, should the State make for maintaining the viability of independent institutions?

The 1960 *Master Plan* recommended enhancement of the then relatively new State Scholarship Program, noting that the indirect benefit to independent institutions encouraged expansion to relieve enrollment pressure on public campuses. Over the past 25 years, rising costs may be pricing independent education out of the range of all but the very rich. State grants cover substantially less tuition costs than in the past. Anecdotal evidence, at least, suggests that financial considerations currently cause more students than in the past to enroll at public campuses than at independent ones (Salholz, 1986). What evidence is there, however, that more grants or higher ones would be used in the independent sector?

Question 5. What policy issues are raised by the proposed, comprehensive study of space and utilization standards?

Comparable data for review of space, utilization, and capacity across all segments now appears to be lacking. To what extent is comparability necessary or desirable? Nor does it appear that all Community College districts furnish complete or reliable data. Whoever undertakes the comprehensive study should consider the needs of State and segmental policy leaders, for space and utilization measures have implications beyond the planning of discrete buildings.

Question 6. What distinctions are currently made between "temporary" and "permanent" off-campus centers? Are the distinctions sufficiently clear for long-range planning?

Distinctions seem unclear. A "temporary" off-campus center appears to be one that usually operates in leased facilities, and Postsecondary Education Commission approval for such a center is not now required. Permanent off-campus centers, on the other hand, are eligible for State capital outlay funding, and must be approved. Should State approval of a "temporary" center be required when it appears that it is simply a way station to permanent status and State, capital support? If so, what criteria should trigger such review?

Question 7. What is the viability of off-campus centers that offer only upper division and professional programs?

In theory, an upper division, off-campus center meets local needs for baccalaureate education in conjunction with surrounding two-year campuses. ut do upper division campuses turn into four-year ones? How do these centers help meet enrollment

needs? What curricular limitations might be imposed? What has been the experience in other states?

Question 8. Can higher education facilities be more fully utilized by encouragement of year-round operations?

The public schools that are operating year-round appear to be both cost and educationally effective. In higher education, on the other hand, earlier experience in California suggests that voluntary attendance and additional costs limit the probable usefulness of this option. Is it worth reconsideration?

Question 9. Have telecommuniocations advanced to the point at which electronic delivery of instruction should once again be considered as a way to relieve enrollment pressure?

Since earlier experiments, television has been enhanced by computer interfaces, color, graphics, and interactive capacity. Many of us are buying videocassettes that teach such skills as cooking and golf. What space and utilization issues does advanced technology raise? Does this technology "only" enhance instructional quality, or can it provide an alternative to capital outlay? Is it time for another experiment?

Question 10. To what extent might independent institutions that serve predominantly part-time or fully employed students meet changing student needs and enrollment growth? Or are they so oriented to the immediate marketplace that they lack a role in long-range planning?

The independent institutions for part-time or fully employed students are undoubtedly the most diverse sector of postsecondary education. Some -- the Fashion Institute of Design & Merchandising -- offer career oriented, associate degree and certificate programs of national reputation. Others -- National, John F. Kennedy, and Golden Gate Universities, for example -- offer a broader range of "time-shortened" programs at the baccalaureate and master's levels. What implications, if any, do the functions of these institutions have for long-range, capital outlay planning in the public sector?

The best of these institutions maintain close relations with prospective business and industrial employers of their graduates. Such contacts provide access to the most recent equipment and job requirements. Is sharing highly specialized instruction with public campuses -- particularly with Community Colleges -- a possibility?

PRIORITIES AND RESPONSIBILITIES

At present, segmental requests for new campuses and centers are reviewed by the Postsecondary Education Commission as they are proposed. If a proposal satisfies the Commission's minimum criteria, approval is given, and the proposal enters the fiscal and political arena. Each segment sets its own priorities when more than one proposal is submitted. Commission criteria recognize the interests of neighboring public and independent institutions, but do not purport to review segmental priorities among proposals from the same segment or to suggest priorities among proposals from different segments.

These procedures may have been satisfactory during the relatively stable period from about 1973 to 1985 when capital growth and expansion were limited. They are not adequate for the future. New campuses, colleges, and centers will be proposed -- indeed, are being proposed -- to respond to population growth in particular regions. Extensive, costly, and urgently needed renovation and remodeling of old and obsolescent facilities require statewide priorities not recognized in current practice. Although discrete elements of long-range, capital planning are in place or now emerging, a statewide, long-range plan is not yet being considered. Yet such a plan seems essential for furtherance of State policies and statewide priorities.

- Priorities of the three segments for new off-campus centers or campuses are annually determined during the State budgetary process. The priority of a particular proposal shifts with the changes in estimates of available funding and for less quantifiable considerations. These shifting priorities are only rarely informed by explicit State policy. Would not the political, budgetary process be of greater long-term, statewide benefit if it were assisted by a long-range, capital outlay plan? Might not such a plan afford minimal assurance, for ex-

ample, that a very costly, high State priority need two or three years in the future would not be jeopardized by intervening, annual expenditures for needs of lesser priority?

• Over the long-term, fund availability is not a zero-sum game; although some observers disagree, confidence that future needs will be supported seems justified by history. Annual capital outlay procedures, however, do ration finite funds. Enrollment numbers, technical space, and utilization standards can carry one only so far in this segmentally fragmented competition. Numbers alone cannot decide whether expansion of graduate -- or undergraduate -- enrollment on a University or State University campus, for example, has higher priority than additional places for undergraduates at a new Community College center. Such decisions are -- and must remain -- political ones. But should not segmental governing boards, the Postsecondary Education Commission, and State executive and legislative staff provide a framework of advice and options for the Governor and Legislature?

• In all three public segments, individual institutions -- many but not all -- are attempting long-range, capital planning. The protracted time and effort for such planning deserves recognition at the State and segmental levels. Without recognition and guidance, ultimate plans are worse than useless; plans can give an illusion of creativity and concern where none exists because local planners perceive their efforts as futile; or, absent guidance and restraint, plans may propose unreasonable and unattainable objectives.

The establishment of a new, permanent, off-campus center currently entails consideration of its impact on nearby institutions by the Postsecondary Education Commission and then by the Legislature. Regional, educational needs are the major aspects of review, but they appear in a snapshot taken through the political and analytical lens of a single proposal. This narrow perspective is ultimately essential, for immediacy concentrates perceptions and concerns. The immediate perspective is necessary, but it is not sufficient; a broader and earlier view of regional and segmental needs and re-sources is required.

The State needs a continuing analytical context -- a State plan -- for reviewing priorities among its regions, the public segments, and the public and private sectors. State goals and statewide priorities are needed as a context for change in higher education. A State plan would give early warning of intentions to grow, and would set appropriate policies and conditions for expansion. For example, a newly established upper-division center might be prohibited from offering lower-division work for, say, ten years to afford time for neighboring institutions to adjust.

The responsibility for State long-range capital planning should be focused in a State agency able both to comprehend statewide educational issues and to negotiate resolution of these issues among the public segments, the private sector, and the responsible State control agencies. Most questions raised here are the province of the Postsecondary Education Commission under its statutory charge to assure orderly growth. At the same time, many critical questions of growth and expansion will, over the coming year, be before two other bodies: the Joint Legislative Committee for Review of the Master Plan and the Commission with the same charge.

A recommendation: All three groups should immediately discuss how best they might begin --cooperatively or sequentially -- to develop long-range, capital outlay, planning procedures and plans. All parties and agencies responsible for major capital growth and expansion should be consulted in the design of the project and as procedures and plans develop. Without orderly capital outlay processes that look at least 15 years into the future, campus, college, and district efforts to chart their future will be in vain. Equally critically, neither the State's educational priorities nor its funds will be protected if scarce resources are eroded by ad hoc, year-to-year response to market demands.

Appendix A Advice and Consultation

The persons listed below contributed information and opinions for this project. These and many staff members of the three public segments and the Postsecondary Education Commission -- too many to be named -- made this project possible. Named or unnamed, I am grateful to them all for their patience and assistance.

The major source of advice for this paper was the formal advisory committee established by Section 66901 of the *Education Code*. Its membership consists of the chief executive officers of each of the public segments, or their designees, the Superintendent of Public Instruction or his or her designee, a representative of the independent sector appointed by the Governor, and the chair or designee of the Council for Private Postsecondary Educational Institutions. Those attending the meetings at which this project was discussed were:

James S. Albertson and Clive P. Condren for the President, University of California

Lowell Denny for the Private Postsecondary Educational Institutions

Gus Guichard for the Chancellor, California Community Colleges

Harvey Hunt for the Superintendent of Public Instruction

Bill Moore and Jonathan Brown for the independent institutions

John M. Smart for the Chancellor, California State University

Equal reliance for advice, information, and criticism was placed on State executive and legislative staff.

Robert Harris, Robert Gray, and Carl Rogers, Budget Division, Department of Finance

Carol Corcoran and Denise Sewart, Population Research Unit, Department of Finance

Gerald Beavers and Harold Geiogue, Office of the Legislative Analyst

Lowell Paige, Office of the Governor

Lee Kershner and Jerome Evans, Commission for Review of the Master Plan

Not all wisdom, of course, resides in Sacramento. Attempts to gain campus and district perspectives were severely limited by lack of time. In every instance, however, inquiries were rewarded by courteous and understanding response, whether in interviews or by correspondence or telephone.

Robert O. Bess, Marjorie Dickinson, Howard Harris, and Nancy Borow, California State University, Sacramento

Jack Carhart, Contra Costa Community College District

David Chigos, National University

Robert Detweiler, James Urata, Amer El-Ahraf, Jerrold Pritchard, Robert Schwabe, and Don McKenzie, California State University, San Bernardino

Adrian Harris, University of California, Los Angeles

Tonian Hoberg, Annie Johnson, Sharon Diel, Kaycee Hale, Vicki Nelson, Carol Rookstool, and Dorothy Metcalfe, Fashion Institute of Design & Merchandising

Donald Kennedy and Robert Freelen, Stanford University

Donald MacIntyre, John F. Kennedy University

Ellis McCune, California State University, Hayward

James Meyer, Robert Glock, and F. E. Spafford, University of California, Davis

Jack Peltason and William Parker, University of California, Irvine

Jack Stark, Claremont-McKenna College

Evan Vail and Gordon Woolley, Riverside Community College District

Appendix B Capital Outlay Procedures

Existing capital outlay practices were of interest in the preparation of this paper only to the extent of their relevance to long-term planning. At the time this is written, there is little relevance. The Community College Chancellor's Office is about midway in efforts to encourage districts development of long-range plans, but is waiting completion of a major, automation project before undertaking systemwide planning. The State University Chancellor's office continues with annual updates of its five-year, systemwide plans, and is only beginning to consider longer-range, systemwide planning. The University President's office expects to complete its systemwide, long-range plan in November 1986, and the plan was not, of course, available for this paper.

Before presenting these procedures, two concerns were mentioned in interviews and telephone conversations that seem more appropriate for discussion in this appendix than in the text:

Quality of Presentation: The presentations of proposals for capital projects appear to vary in technical quality across the segments. In general, University proposals are said to have the highest quality, followed by those of the State University, and then by those of the Community Colleges. Concern was expressed that the State control agencies tended, not unnaturally, to favor those proposals that had the better presentations. It is not clear how one can separate the substantive merit of a proposal from its technical presentation, but, I suggest, viewing projects across time and segments in a long-range plan might help.

Detailed Review: Pervasive discontent was apparent when the level of detail of State control agency review was discussed. It was quite beyond the scope of this project to determine whether or not such complaints were justified. The extent of the unhappiness, however, suggests that a review of existing State capital outlay review procedures might be desirable. For purposes of this paper, it seems sufficient to suggest that control agency staff may tend to substitute detailed, technical review for currently lacking statewide plans and policies.

The three, public, segmental offices were asked to describe their capital outlay planning procedures for the informational purposes of this appendix. These descriptions are reproduced below.

THE UNIVERSITY OF CALIFORNIA

"The capital budget consists of individual major projects (over $200,000) proposed for funding along with a lump sum for minor capital projects (under $200,000). Major capital projects are approved by the State on a line-item basis; funds for minor capital projects are approved on a lump-sum basis. In addition to State funds, the University also uses gift funds, certain fees and reserves, and other funds available to The Regents for capital projects."

"The internal process for developing the capital budget is an iterative process, with campuses initially submitting schedules and brief descriptions of both State- and non-State-funded projects. After compilation and review of campus submittals by the Office of the President, discussions are held with campus representatives regarding project need, justification, priority, and likelihood of funding. Revised schedules are sent to the campuses for approval or dissent. Campuses then make a second submittal in greater detail for each project. The capital portion of the Regents' Budget is prepared from these more detailed submittals. There is continuing contact with the campuses for clarifications and proposed revisions throughout the process.

"Each fall, University staff and representatives of the Department of Finance and the Legislative Analyst's Office visit campuses to review projects proposed for State funding. University staff work closely with State staff to provide additional information where necessary and resolve as many questions as possible in an effort to solicit support

of individual capital projects before legislative budget hearings begin."

THE CALIFORNIA STATE UNIVERSITY

"Each year, the State University prepares enrollment projections for each of the nineteen (19) campuses which compose the system. These projections are then used by the campuses to determine their theoretical space deficiences and a Five-year Capital Improvement Program is developed to accommodate the projected academic and programmatic needs. This process is repeated annually such that a consistent, well conceived five-year capital improvement program is maintained, a procedure which aids in focusing resources to areas of greatest need."

"Subsequent to the development of the five-year program each campus, in consultation with the Chancellor's Office, determines which of the projects included within the program are most urgently needed by the campus; such projects may include the renovation or rehabilitation of older, existing buildings to accommodate new technologies or to rectify health or safety code deficiencies, provide a new addition to an existing building, or the construction of an entirely new building. When these decisions have been made, the campus prepares a Program Justification, a document which describes the proposed work, explains why it is necessary and indicates the expected cost of the project. The Program Justification documents are submitted to the Chancellor's Staff for review and concurrence."

"While the above processes are underway at the campus level, the Chancellor's Staff is reviewing and suggesting changes, if appropriate, to the Capital Outlay Program Categories and Criteria. These criteria are adopted by the Board of Trustees annually and are used to allow the prioritization of all projects proposed for any fiscal year."

"Following adoption of the Categories and Criteria, the projects submitted by the various campuses are evaluated and, where warranted for immediate funding, are ranked in the annual Capital Outlay budget request. This list of ranked projects is then submitted by the Board of Trustees to the State Department of Finance and Governor's Office."

"Campus visits by representatives of the Chancellor's Office, Department of Finance and Legislative Analyst are then made. During these visits, the actual construction sites are visited and questions are raised regarding both the particular project and its campuswide impacts. After these visits the Chancellor's Office staff, in cooperation with campus personnel, prepares written responses to the questions raised. This sequence is followed by a lengthy period of negotiations between Chancellor's Staff and Department of Finance Personnel; the success of these negotiations and preceding work is reflected in the Governor's Budget Bill."

"Staff from the Chancellor's Office, after reviewing the Legislative Analysis, presents testimony in support of the Capital Outlay Program projects before various Legislative Committees. Upon adoption of the Budget Act, project implementation contracts are awarded and managed by the Chancellor's Staff."

THE CALIFORNIA COMMUNITY COLLEGES

"The capital outlay planning process starts in the community college district with the identification of a need for educational or educational support facilities. That need, if it is a capital expenditure over $200,000, is communicated to the State Chancellor's Office as part of the district's Five-Year Capital Construction Plan, a document which is developed annually and which contains all major capital projects planned for a five-year period commencing eighteen months after the plan is submitted. In addition to presenting the general needs of the district, the plan presents specific project planning guides which provide concise descriptions of the proposed projects which are eligible for funding during the first year of the five-year period covered in the plan."

"Those projects which are supportable and which are approved by the Board of Governors for Commun-ity Colleges are placed in priority order and forwarded to the State Department of Finance for its review and concurrence that the district should proceed in developing a more detailed preliminary

planning package which would contain specific project data including item costs. Each district which funds the development of its preliminary planning package is reimbursed if the project is approved by the Legislature."

The State Department of Finance reviews the package for possible inclusion of the project in the Governor's Proposed Budget which is presented at the beginning of the calendar year and becomes the basis for legislative hearings which ultimately culminate in the passage of the Budget Act. All districts with projects in the Budget Act are notified that funding is available for support of the projects and that they may proceed with the next steps in bringing the project to completion."

"In taking the next steps, the district must (1) prepare working drawings, (2) prepare bid documents, (3) award the contract, (4) prepare claims to receive State funding for use in meeting contract obligations, and (5) accepting the completed project. In conjunction with the steps which the district must take, the State Chancellor's Office must (1) obtain approval from the State Public Works Board for the preliminary plan, (2) obtain approval from the State Department of Finance for the district to proceed in securing bids and the release of funds, (3) approve final working drawings and change orders, (4) monitor major project activities during each stage of the project, and (5) review all claims and authorize final payment. With the successful carrying out of these major steps, the project is brought to completion."

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